REMARKS/ARGUMENTS

Favorable reconsideration of this application is respectfully requested.

Claims 1-12, 45, and 46 are pending in this application, claims 13-44 having been previously canceled without prejudice.

Claim 1 was objected to for an informality. Claims 1, 6-8, 10, 45, and 46 were rejected under 35 U.S.C. § 103(a) as unpatentable over U.S. patent 5,918,077 to Wakabayashi et al. (herein "Wakabayashi") in view of U.S. patent 5,930,530 to Hirano et al. (herein "Hirano").

Addressing first the objection to claim 1, claim 1 is amended by the present response to clarify the antecedent basis for the noted terms.

Addressing now the rejection of claims 1, 6-8, 10, 45, and 46 under 35 U.S.C. § 103(a) as unpatentable over Wakabayashi in view of Hirano, that rejection is traversed by the present response.

Initially, applicants note each of independent claims 1 and 10 is amended by the present response to clarify features recited therein. Specifically, those claims now further recite that "a range of shake to be detected during an exposure time is predicted before exposure and said shake correction unit is moved to the correcting-operation start position, and subsequently the correcting operation and an exposure operation are performed". No new matter is believed to be added by the claim amendments.

The outstanding rejection cites the teachings in Wakabayashi to disclose each of the claimed features except "that of predictive shake factors calculated based on the predictive shake information".[1] In that respect, applicants note the cited portions in Wakabayashi disclose a blurring corrected camera that detects and corrects blurring when the focus lens can be moved to a predetermined position based on detected information, but otherwise

[1] Office Action of August 11, 2004, page 3.

neither detection nor correction of vibration is performed. That operation in Wakabayashi is intended to avoid compensation of electricity from the cell in vain by operating a vibration correcting function when adjustment of focus is not performed correctly.

Figure 3C of Wakabayashi explains a picture taking procedure including a vibration correction operation after it is confirmed that the focusing lens is moved to a correct position. The step S590 of "centering of vibration correction lens" indicates adjusting the center (optical axis) of the lens to the center (optical axis) of another fixed lens. Wakabayashi also states at column 9, lines 26-29 that "[i]n the step S509, the center of the vibration correcting lens 13 is moved from an initial reset position to the center position of the optical access. In the step S510, vibration correction is started". Such a disclosure in Wakabayashi does not mean that the start position is determined based on a prediction, but instead means that the correction operation is started from the center position of a range of correction without exception.

Applicants also submit it appears that no special contrivance is made in Wakabayashi on a vibration correction operation itself after confirming success or failure of focus adjustment.

In contrast to Wakabayashi, claim 1 sets a correction start position in accordance with vibration predictive data and moves the optical center of the correcting unit to the correction start point, which allows maintaining a sufficient range of correction for vibration generated after the correcting operation has started.

Applicants draw attention to the attached Appendix to help explain differences between the claimed features and the applied art. In the Sketch 1 in the attached Appendix, in a case in which a center of a correcting unit is set as a correction start point in a same position as an optical axis of a fixed optical system excluding the correcting unit, it may occur that the correcting unit goes out of the movable range where it can move. However,

see Sketch 2, by starting the correction operation at a position shifted from the center of the movable range, vibration during the picture taking can be restricted within the movable range of the correcting unit. In Sketches 1 and 2 the "x" indicates an operation start point, the solid line indicates a trajectory of image blurring, the dot (•) indicates a position of image blurring when the picture taking is over, and the double-dashed line indicates a range where correction is possible.

In the case in which it is predicted that vibration occurs evenly up or down and to and fro within the range in which correction vibration is possible, in the claimed invention the correction start point is set to the center of the range of correction. This is based on the results of the prediction of vibration.

Such features in the claims are believed to clearly distinguish over the applied art to Wakabayashi.

Moreover, no teachings in Hirano are believed to overcome the above-noted deficiencies in Wakabayashi.

Hirano relates to a vibration reduction method and device intended to improve precision of correction by performing a correcting operation during an exposure time to avoid a delay in the correction to cope with insufficient correction that may occur due to a delay in correction and a time lag between the detection of vibration and completion of calculation and output of a driving signal, see for examples Sketches 3 and 4 in the attached Appendix.

According to Hirano, the direction and distance of a short vibration period generated in a time interval between driving signals continuously output to the correcting unit during an exposure time is predicted and the results are reflected to subsequent driving signals. Therefore, during the exposure time, calculation of the prediction of vibration is performed repeatedly. Hirano thus teaches how to calculate the prediction of vibration.

In contrast to the teachings in Hirano, the claim features are not intended to improve the precision of correction itself during an exposure time, but are intended to predict a range of vibration during an exposure time and to set a correction start point, thereby using the correction range effectively and enabling correction even when the vibration is on a large scale.

Thus, the claimed invention predicts the range of vibration during an exposure time. The claimed invention does not predict the amount and direction of vibration between outputs of a correction signal that is repeatedly output during an exposure time as in Hirano.

Thereby, the claimed invention differs from the applied art to Wakabayashi and Hirano in the respect of a target of which correction of vibration is to be made, as well as the vibration information and calculation method for calculating the vibration method.

In such ways, applicants respectfully submit that amended claims 1 and 10, and the claims dependent therefrom, are unobvious over Wakabayashi in view of Hirano.

Applicants also note that withdrawn claims 2-5, 9, 11, and 12 have been maintained. Those withdrawn claims are dependent on at least one of independent claims 1 and 10, and thus independent claims 1 and 10 are clearly generic to withdrawn claims 2-5, 9, 11, and 12. Thus, as independent claims 1 and 10 are allowable for the reasons noted above, applicants submit that withdrawn claims 2-5, 9, 11, and 12 must now be reinstated and that those claims are also allowable.

As no other issues are pending in this application, it is respectfully submitted that the present application is now in condition for allowance, and it is hereby respectfully requested that this case be passed to issue.

Respectfully submitted,

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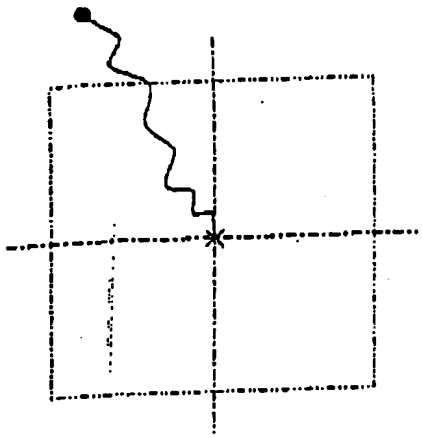
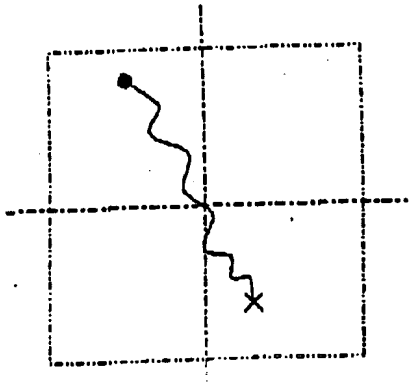
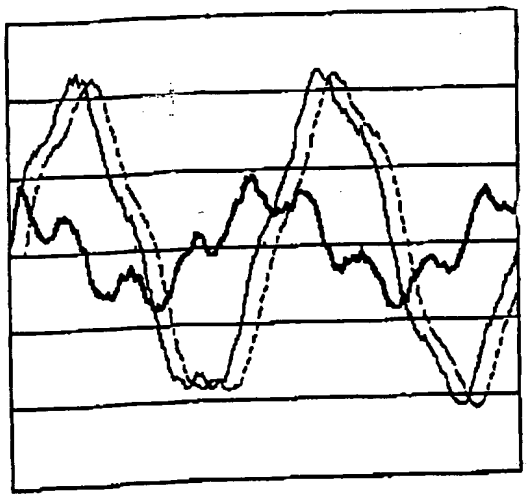


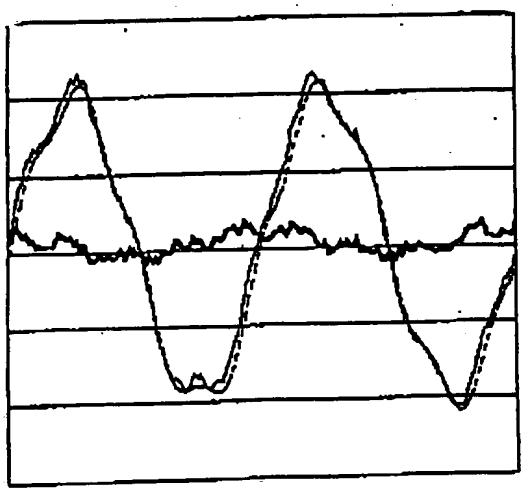
Sketch 1



Sketch 2



Sketch 3



Sketch 4

In Sketches 3 and 4,

——— Amount of vibration
- - - - Amount of correction
——— Residual vibration